EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joshua D. Mather on 05/05/2009.

2. The application has been amended as follows:

- Claim 1. (Currently Amended) A method for gathering and monitoring the simultaneous status of nodes in a storage area network (SAN), comprising:

receiving alert messages corresponding to status events in the storage area network, each status event having a corresponding event category and severity value, the storage area network having nodes that include manageable entities, the manageable entities responsive to a server in the storage area network, the nodes including storage entities, connectivity entities, and database entities;

aggregating the alert messages according to event category and severity value to generate a category specific severity ranking of the alert messages;

displaying a status array having a plurality of chart entries, each chart entry corresponding to alert messages of a particular event category and each chart entry having a node entry for each node having status attributable to the

alert messages, the status array is an N by M matrix of the plurality of chart entries, the plurality of chart entries including:

i) a general alert chart entry displaying alert status of managed entities in the storage area network;

ii) a storage chart entry indicating alert status of managed storage entities in the storage area network;

iii) a host chart entry indicating alert status of managed host entities in the storage area network; and

iv) a connectivity chart entry indicating alert status of managed connectivity entities in the storage area network;

receiving a selection of at least one node in the N by M status array matrix of the plurality of chart entries;

displaying the status array including simultaneously listing, for each category type, nodes having status events of greatest severity;

displaying, within at least one chart entry, node entries in relation to the selected at least one node in order to display the simultaneous status of nodes in the storage area network; and

displaying, within at least one chart entry, node entries having a status event associated with the event category for that chart entry, the node entries displayed in the chart entry according to the severity ranking and each node entry indicative of a severity scale of status for the corresponding effected node.

- Claim 2. (Previously Presented) The method of claim 1 wherein displaying, within the at least one chart entry, comprises:

  accumulating events of each of a plurality of severity levels, each severity level representing a range of severity values such that a given status event with a given severity value has a corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level, wherein the severity scale for a node entry is an enumeration of events received for each of the plurality of severity levels within the severity ranking, the severity ranking determined by the severity scale for each node entry;

  displaying the enumeration of events received for each node entry within the at least one chart entry containing that node entry, the enumeration of events received being displayed in an order according to the severity ranking; and

  wherein the alert messages are received from remote agents operating within a storage area network.

- Claim 3. (Original) The method of claim 2 wherein the enumeration is a histogram having a magnitude based on the severity scale and a quantity of events within each severity level within the severity ranking.

- Claim 4. (Original) The method of claim 3 wherein the histogram has a plurality of visually overlapping elongated bar segments, each elongated bar segment corresponding to a particular severity level.

- Claim 5. (Original) The method of claim 1 further including discovering a topology of nodes in the SAN, wherein the alert messages correspond to status events for each of a plurality of selected nodes in a selection tree, the selection tree indicative of the nodes in the SAN.
- Claim 6. (Original) The method of claim 1 further including filtering the status events to compute a subset of elected events, wherein the received events correspond to elected events determined in response to predetermined filtering logic at the agents processing the elected events.
- Claim 7. (Original) The method of claim 1 wherein each chart entry has a magnitude axis, the magnitude axis indicative of a relative range of the quantity of status events within each of the severity levels corresponding to a plurality of node entries reflected in the chart entry.
- Claim 8. (Previously Presented) The method of claim 1 wherein each chart entry has a manageable entity axis, the manageable entity axis arranged, for each node, according to increasing severity scale denoting the severity ranking for each node included in the chart entry, and further comprising computing the severity scale for each node according to a predetermined severity metric.
- Claim 9. (Original) The method of claim 1 wherein the severity level corresponds to a threshold value, the threshold value identifying triggering of an event having the corresponding severity level.

- Claim 10. (Original) The method of claim 1 wherein each event in an event category has a set of threshold values, the threshold values indicative of a quantitative metric triggering the particular event and severity.
- Claim 11. (Original) The method of claim 10 further comprising processing and propagating the threshold values to remote agents, the remote agents operable to analyze nodes and determine when a particular metric satisfying a triggering threshold is attained and generate the corresponding event.
- Claim 12. (Original) The method of claim 1 wherein the nodes further comprise manageable entities, the manageable entities responsive to the server in a SAN and further including storage entities, connectivity entities, and database entities.
- Claim 13. (Original) The method of claim 1 further comprising selectively suppressing events of a particular category and severity.
- Claim 14. (Original) The method of claim 1 wherein the chart entries in the status array are further subdivided into chart entries directed to manageable entity health, manageable entity performance, and storage system capacity.
- Claim 15. (Original) The method of claim 1 comprising:

receiving a selection of at least one node in a hierarchical arrangement of nodes; and

wherein receiving, aggregating, displaying a status array, and displaying, within at least one chart entry, node entries are performed in relation to the selected at least one node in order to display the simultaneous status of nodes in a storage area network.

- Claim 17. (Original) The method of claim 1 further comprising

  receiving a user input corresponding to selection of at least one node entry from among the node entries displayed in the status array;

  displaying an expanded menu of status options for the selected entry; and

  receiving a response to the menus of status options and displaying an expanded status report corresponding to the expanded menu.

- Claim 18. (Currently Amended) A network monitoring device for gathering and monitoring the simultaneous status of nodes in a storage area network (SAN), comprising:

  a server having a correlator operable to receive alert messages corresponding to status events in the storage area network, each status event having a corresponding event category and severity value, the storage area network having nodes that include manageable entities, the manageable entities responsive to a server in the storage area network, the nodes including storage entities, connectivity entities, and database entities;

an aggregator operable to aggregate the alert messages according to event category and severity value to generate a category specific severity ranking of the alert messages; and

an operator console operable to display a status array having a plurality of chart entries, each chart entry corresponding to alert messages of a particular event category and each chart entry having a node entry for each node having status attributable to the alert messages, the status array is an N by M matrix of the plurality of chart entries, the plurality of chart entries including:

i) a general alert chart entry displaying alert status of managed entities in the storage area network;

ii) a storage chart entry indicating alert status of managed storage entities in the storage area network;

iii) a host chart entry indicating alert status of managed host entities in the storage area network; and

iv) a connectivity chart entry indicating alert status of managed connectivity entities in the storage area network;

the console further operable to receive a selection of at least one node in the N by M status array matrix of the plurality of chart entries, display the status array including simultaneously listing, for each category type, nodes having status events of greatest severity, and display, within at least one chart entry, node entries in relation to the selection of at least

one node in order to display the simultaneous status of nodes in the storage area network; and

the console further operable to display, within at least one chart entry, node entries having a status event associated with the event category for that chart entry, the node entries displayed in the chart entry according to the severity ranking and each node entry indicative of a severity scale of status for the corresponding effected node.

- Claim 19. (Previously Presented) The network monitoring device of claim 18 wherein the accumulator is further operable to:

accumulate events of each of a plurality of severity levels, each severity level representing a range of severity values such that a given status event with a given severity value has a corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level, wherein the severity scale for a node entry is an enumeration of events received for each of the plurality of severity levels within the severity ranking, the severity ranking determined by the severity scale for each node entry;

display, within the at least one chart entry, the enumeration of events received for each node entry within the at least one chart entry containing that node entry, the enumeration of events received being displayed in an order according to the severity ranking;

wherein the enumeration is a histogram having a magnitude based on the severity scale and a quantity of events within each severity level within the severity ranking; and

wherein the histogram has a plurality of visually overlapping elongated bar segments, each elongated bar segment corresponding to a particular severity level.

- Claim 24. (Original) The network monitoring device of claim 18 wherein each chart entry has a magnitude axis, the magnitude axis indicative of a relative range of the quantity of status events within each of the severity levels corresponding to a plurality of node entries reflected in the chart entry.
- Claim 25. (Previously Presented) The network monitoring device of claim 18 wherein each chart entry has a manageable entity axis, the manageable entity axis arranged, for each node, according to increasing severity scale denoting the severity ranking for each node included in the chart entry, and further comprising computing the severity scale for each node according to a predetermined severity metric.
- Claim 26. (Original) The network monitoring device of claim 18 wherein the severity level corresponds to a threshold value, the threshold value identifying triggering of an event having the corresponding severity level.
- Claim 27. (Currently Amended) The network monitoring device of claim 18 wherein each event in an event category has a set of threshold values, the

threshold values indicative of a quantitative metric triggering the particular event and severity; and

wherein the server is further operable to processing and propagating the threshold values to remote agents, the remote agents operable to analyze nodes and determine when a particular metric satisfying a triggering threshold is attained and generate the corresponding event.

- Claim 30. (Original) The network monitoring device of claim 18 wherein the server is operable to selectively suppress events of a particular category and severity.
- Claim 31. (Original) The network monitoring device of claim 18 wherein the chart entries in the status array are further subdivided into chart entries directed to manageable entity health, manageable entity performance, and storage system capacity.
- Claim 32. (Original) The network monitoring device of claim 18 wherein the server is further operable to receive a selection of at least one node in a hierarchical arrangement of nodes, and display, within at least one chart entry, node entries in relation to the selected at least one node in order to display the simultaneous status of nodes in a storage area network.
- 34. (Original) The network monitoring device of claim 18 wherein the server is further operable to:

receive a user input corresponding to selection of at least one node entry from among the node entries displayed in the status array;

display an expanded menu of status options for the selected entry; and

display an expanded status report corresponding to the expanded menu and a response to the menu of status options.

- 35. (Currently Amended) A computer program product having a computer readable medium operable to store computer program logic embodied in computer program code encoded thereon for gathering and monitoring the simultaneous status of nodes in a storage area network (SAN), comprising:

computer program code for receiving alert messages corresponding to status events in the storage area network, each status event having a corresponding event category and severity value, the storage area network having nodes that include manageable entities, the manageable entities responsive to a server in the storage area network, the nodes including storage entities, connectivity entities, and database entities;

computer program code for aggregating the alert messages according to event category and severity value to generate a category specific severity ranking of the alert messages;

computer program code for displaying a status array having a plurality of chart entries, each chart entry corresponding to alert messages of a particular event category and each chart entry having a node entry for

each node having status attributable to the alert messages, the status array is an N by M matrix of the plurality of chart entries, the plurality of chart entries including:

i) a general alert chart entry displaying alert status of managed entities in the storage area network;

ii) a storage chart entry indicating alert status of managed storage entities in the storage area network;

iii) a host chart entry indicating alert status of managed host entities in the storage area network; and

iv) a connectivity chart entry indicating alert status of managed connectivity entities in the storage area network;

computer program code for receiving a selection of at least one node in the N by M status array matrix of the plurality of chart entries;

computer program code for displaying the status array including simultaneously listing, for each category type, nodes having status events of greatest severity;

computer program code for displaying, within at least one chart entry, node entries in relation to the selected at least one node in order to display the simultaneous status of nodes in the storage area network; and

computer program code for displaying, within at least one chart entry, node entries having a status event associated with the event category for that chart entry, the node entries displayed in the chart entry

according to the severity ranking and each node entry indicative of a severity scale of status for the corresponding effected node.

- Claim 38. (Previously Presented) The method of claim 1, wherein the severity scale for each node entry is an aggregate value representative of a number of alert messages received at each node entry for a given sampling interval, wherein each node entry is weighted with respect to a corresponding severity level for each alert message, each severity level representing a range of severity values such that a given status event with a given severity value has a corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level.
- Claim 39. (Previously Presented) The network monitoring device of claim 18, wherein the severity scale for each node entry is an aggregate value representative of a number of alert messages received at each node entry for a given sampling interval, wherein each node entry is weighted with respect to a corresponding severity level for each alert message, each severity level representing a range of severity values such that a given status event with a given severity value has a corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level.
- Claim 40. (Previously Presented) The computer program product of claim 35, wherein the severity scale for each node entry is an aggregate

value representative of a number of alert messages received at each node entry for a given sampling interval, wherein each node entry is weighted with respect to a corresponding severity level for each alert message, each severity level representing a range of severity values such that a given status event with a given severity value has a corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level.

- Claim 43. (Currently Amended) A method for gathering and monitoring the simultaneous status of nodes in a storage area network (SAN), comprising:

discovering a topology of nodes in the SAN, wherein the nodes comprise manageable entities, the manageable entities responsive to a server in the SAN and further including storage entities, connectivity entities, and database entities;

propagating threshold values to remote agents, wherein responsive to the threshold values, the remote agents operable to analyze nodes and determine when a particular metric satisfying a triggering threshold is attained, and to generate a corresponding status event as an alert message;

receiving alert messages, from the remote agents, corresponding to status events in the storage area network, each status event having a corresponding event category and severity value;

storing status events in an event repository;

aggregating the alert messages according to event category and severity value to generate a category specific severity ranking of the alert messages;

displaying a status array having a plurality of chart entries, each chart entry corresponding to alert messages of a particular event category and each chart entry having a node entry for each node having status attributable to the alert messages, the status array is an N by M matrix of the plurality of chart entries, the plurality of chart entries including:

i) a general alert chart entry displaying alert status of managed entities in the storage area network;

ii) a storage chart entry indicating alert status of managed storage entities in the storage area network;

iii) a host chart entry indicating alert status of managed host entities in the storage area network; and

iv) a connectivity chart entry indicating alert status of managed connectivity entities in the storage area network;

displaying the status array including simultaneously listing, for each category type, nodes having status events of greatest severity;

displaying, within at least one chart entry, node entries in relation to the selected at least one node in order to display the simultaneous status of nodes in the storage area network; and

displaying, within at least one chart entry, node entries having a status event associated with the event category for that chart entry, the node entries displayed in the chart entry according to the severity ranking and each node entry indicative of a severity scale of status for the corresponding effected node, wherein the severity scale for a node entry is an enumeration of events received for each of a plurality of severity levels with the severity ranking.

- Claim 44. (Previously Presented) The method of claim 43 wherein the chart entries in the status array are further subdivided into chart entries directed to manageable entity health, manageable entity performance, and storage system capacity; and

in response to a user request, the remote agents selectively suppressing events of a particular category and severity.

- Claim 45. (Previously Presented) The method of claim 4, wherein displaying the enumeration of events includes displaying a histogram bar, for each node entry, that has a length proportional to a total number of status events corresponding to a node of the node entry.
- Claim 46. (Previously Presented) The method of claim 45, wherein displaying the enumeration of events includes displaying each elongated bar segment indicating a quantity of status events corresponding to a corresponding severity level.

- Claim 47. (Previously Presented) The method of claim 46, wherein each histogram bar has a maximum range that adjusts depending on a length of each histogram bar.
- Claim 48. (Previously Presented) The method of claim 7, wherein the magnitude axis of each chart entry has a maximum range that adjusts depending on a maximum value of the severity levels.
- Claim 50. (Previously Presented) The method of claim 49, further comprising:

  accumulating events of each of a plurality of severity levels, each severity level representing a range of severity values such that a given status event with a given severity value has a corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level, wherein the severity scale for a node entry is an enumeration of events received for each of the plurality of severity levels within the severity ranking, the severity ranking determined by the severity scale for each node entry;

  propagating threshold values to remote agents, wherein responsive to the threshold values, the remote agents operable to analyze nodes and determine when a particular metric satisfying a triggering threshold is attained, and to generate a corresponding status event as an alert message; and

in response to a user request, the remote agents selectively suppressing events of a particular category and severity.

- Claim 51. (Previously Presented) The method of claim 50, wherein the enumeration is a histogram having a magnitude based on the severity scale and a quantity of events within each severity level within the severity ranking; and

  wherein each chart entry has a manageable entity histogram bar, the manageable entity histogram bar arranged, for each node, according to increasing severity scale denoting the severity ranking for each node included in the chart entry, and further comprising computing the severity scale for each node according to a predetermined severity metric.

- Claim 52. (Previously Presented) The method of claim 51, wherein each event in an event category has a set of threshold values, the threshold values indicative of a quantitative metric triggering the particular event and severity; and

  further comprising processing and propagating the threshold values to remote agents, the remote agents operable to analyze nodes and determine when a particular metric satisfying a triggering threshold is attained and generate the corresponding event.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:

Prior art singly or in combination fails to teach claim limitation, among other things, the combination of the status array is an N by M matrix of the plurality of chart entries, the plurality of chart entries including:

i) a general alert chart entry displaying alert status of managed entities in the storage area network;

ii) a storage chart entry indicating alert status of managed storage entities in the storage area network;

iii) a host chart entry indicating alert status of managed host entities in the storage area network; and

iv) a connectivity chart entry indicating alert status of managed connectivity entities in the storage area network; and

displaying the status array including simultaneously listing, for each category type, nodes having status events of greatest severity; and

displaying, within at least one chart entry, node entries in relation to the selected at least one node in order to display the simultaneous status of nodes in the storage area network.

- Claims 2-15, 17, 19, 24-27, 30-32, 34, 38-40 and 44-52 carry dependency from base claims 1, 18, 35 and 44, which further limits the base claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Luo et al, Patent Number US 7,139,819 B1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAUQIR HUSSAIN whose telephone number is (571)270-1247. The examiner can normally be reached on 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571 272 3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. H./
Examiner, Art Unit 2452

/Dohm Chankong/
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